

IN THE CLAIMS

a¹ 1. (once amended) An electronically commutated brushless motor comprising:

a housing having a circumferential internal wall, said housing being closed at a distal end by a first end cap and closed at an opposing proximal end by a second end cap;

at least one position sensor for sensing a position of a rotor of said motor during operation of said motor;

a bridge integrally formed with an end wall formed at said proximal end of said housing, said bridge configured to substantially enclose and precisely support said position sensor within a generally hollow interior area of said bridge adjacent an interior area of said housing;

a plurality of locating ribs integrally formed on said internal wall of said housing and configured to precisely situate a stator; and

wherein said locating ribs and said bridge, both being integrally formed on said housing, eliminate the possibility of misalignment of said position sensor relative to said stator during assembly of said motor.

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7. (once amended) A method for accurately aligning a position sensor of an electronically commutated motor relative to a position of a stator of the motor, the method comprising:

forming a housing having a circumferential internal wall, a plurality of integrally formed stator locating ribs formed on the circumferential internal wall, an end wall integrally formed at a proximal end of the circumferential internal wall, and a position sensor bridge integrally formed on the end wall, wherein the housing is closed at a distal end by a first end cap and closed at a proximal end second end cap;

securing at least one position sensor to a generally hollow interior area of the position sensor bridge such that the position sensor is substantially enclosed by the position sensor bridge inside the housing; and

inserting a stator into the housing such that an angular orientation of the stator is precisely aligned by the stator locating ribs, relative to the position sensor bridge, to thereby eliminate the possibility of misalignment of the stator relative to the position sensor during assembly of the motor.

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15. An electronically commutated brushless motor comprising:

a housing including:

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a circumferential internal wall having at least one locating rib,
said circumferential internal wall being closed at a distal end by a first
end cap and closed at a proximal end by a second end cap;

an integrally formed end wall;

at least one position sensor bridge integrally formed with said
end wall, said position sensor bridge having a hollow internal area
adjacent an internal area of said housing;

a position sensor secured to said position sensor bridge so as to be
substantially disposed within said hollow internal area;

a stator having a peripheral outer surface adapted to engage with said one
locating rib when said stator is inserted into said housing; and

wherein said locating rib and said bridge, both being integrally formed on
said housing, eliminate the possibility of misalignment of said stator relative to said
position sensor during assembly of said motor.

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19. A housing for a brushless motor which enables a stator and at least
one rotor position sensing component to be readily accurately aligned relative to each
other during assembly, said housing comprising:

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cont.
a circumferential wall portion forming a interior area into which a stator may be inserted, said circumferential wall portion including at least one locating member integrally formed on an internal surface thereof, and wherein said locating member is adapted to engage with a portion of a peripheral outer surface of said stator such that said stator is angularly orientated in a precise orientation within said housing when inserted into said circumferential wall portion;

an end wall integrally formed with said circumferential wall portion and defining a portion of an enclosure for said stator;

said end wall having an opening for permitting a shaft of a rotor disposed within said stator to project therethrough;

a position sensor bridge portion integrally formed with said end wall and being disposed adjacent said opening, said position sensing bridge being adapted to support at least one position sensor fixedly relative to said end wall such that said position sensor is adjacent said interior area of said circumferential wall portion; and

wherein said locating member and said position sensor bridge, both being integrally formed on said housing, eliminate the possibility of misalignment of said stator relative to said rotor during assembly of said motor.

20. A method for assembling a brushless motor, comprising:

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providing a housing having a circumferential wall portion, at least one integrally formed locating member on an interior surface of the circumferential wall portion, an end wall having an opening, and a mounting bridge integrally formed on the end wall adjacent to the opening;

providing a stator having a peripheral surface adapted to engage with the locating member when the stator is inserted into the circumferential wall portion;

providing at least one position sensor for detecting a position of a shaft of a rotor disposed within the stator;

inserting the stator into the circumferential wall portion such that the peripheral surface engages with the locating member and places the stator in a precise angular orientation within the housing;

inserting the rotor into the stator such that the rotor shaft projects through the opening in the end wall and adjacent the mounting bridge;

securing the position sensor to an interior wall of the mounting bridge adjacent an interior area of the housing; and

wherein the mounting bridge precisely angularly orientates the position sensor relative to the stator.